

January 19th, 2017

To: KMS Teachers (Grades 5-8)

From: Mr. Nester (8th Grade WV Studies Teacher)

Re: "Hidden Figures" and Katherine Johnson

KMS Teachers:



As our students view the film "Hidden Figures" they will learn about the accomplishments of Katherine Johnson, a West Virginian, and the other human computers in the NASA space program who created a lasting legacy for our students to use as an example of a positive role model. I have created a lesson highlighting the life and accomplishments of Katherine Johnson which accompanies the film, "Hidden Figures". The lesson will also highlight Johnson's West Virginia roots. Please find the lesson plan below and follow all parts to fully engage students and create a dialogue about the lives of these remarkable women. You will find links to all videos and resources as well as a printed version of the resources in this packet and your teacher email. You will need to access your webtop accounts to show the videos in YouTube. If you have any questions regarding the lesson please do not hesitate to email me at tnester@k12.wv.us.

"Hidden Figures" Film Lesson Procedure:

- 1) Start off by telling students "Female human computers like Katherine Johnson are often overlooked in history. Today, you'll have the chance to learn more about one of these unsung heroines of American History." Also make note that Dorothy Vaughan who was portrayed in the movie was also from West Virginia and resided in Morgantown (Monongalia County).
- 2) Show students the following video clip from YouTube entitled "Make it Count". The link to the video is: <https://www.youtube.com/watch?v=ms92fv9L9aY>. After viewing the video clip "ask students why the movie was titled "Hidden Figures"? Also address with students during this time why these women were considered "hidden figures" during the time in which they lived (1950s) and when studying history. Lead a student discussion.
- 3) Ask students, "Who is Katherine Johnson?" and allow student to explain from their prior knowledge of viewing the film "Hidden Figures". Show students the Katherine Johnson Flocabulary video. The link to the video is: <https://www.flocabulary.com/unit/katherine-johnson/video/>. Also make note that she graduated from West Virginia State University in Institute, West Virginia (Kanawha County) which was one of the historically black colleges in the state as well as entering graduate school at West Virginia University in Morgantown, West Virginia (Monongalia County). Please feel free to point out both locations on a West Virginia map.

- 4) After viewing the video have students read the biography of Katherine Johnson from the West Virginia Encyclopedia and answer the guided review questions that accompany the article to check for student comprehension. Also refer to the handout from NASA titled “Who is Katherine Johnson?” to have reference more background information regarding Johnson’s life. The NASA article can be found by visiting the following link: <https://www.nasa.gov/audience/forstudents/5-8/features/nasa-knows/who-is-katherine-johnson-5-8>.
- 5) Next show the video clip “The Girl Who Loved to Count” from the NASA website. The video can be found at the following link: <https://www.nasa.gov/feature/katherine-johnson-the-girl-who-loved-to-count>. The video will highlight Katherine Johnson’s accomplishments.
- 6) Have students discuss how Katherine Johnson and the other human computers from NASA paved the way other individuals like themselves. Ask students why the accomplishments of Katherine Johnson were important for individuals who are living during our times.
- 7) After the discussion show students a video clip of an interview by Tracey Drain from a series titled “Modern Figures” to show how African American women have followed in the footsteps of Johnson and have pursued careers in the STEM fields. The video can be found at the following link on YouTube: <https://www.youtube.com/watch?v=L0aMYm-9TBU>.
- 8) Next show students the video clip “Katherine Johnson’s Legacy” from YouTube. The video can be found at the following link: <https://www.youtube.com/watch?v=8g3AvxrVTic>. Have students discuss the legacy of Katherine Johnson and the other African American women discussed in the film “Hidden Figures”.
- 9) End the lesson by having student’s role play and step into the shoes of Katherine Johnson. Have students imagine they are Katherine Johnson today in 2017 and she just viewed the film “Hidden Figures” about her life and accomplishments. Have students write from the view point of Katherine Johnson explaining what she feels her legacy on America is and how she helped to forge the way for other women and individuals to pursue a career in the STEM field. Have students write at least five sentences. The writing activity will serve as the exit ticket for the lesson and students must demonstrate their knowledge of Katherine Johnson.
- 10) Allow students to share their writing activity response and then collect the activity and grade the activity based on participation and enter the grade into your livegrades account to give students an incentive to completing the lesson.

